

cutting, a Solitaire flew off her nest and passed in front of the car. Her nest was in a small crevice in the rock cutting, five feet above the road, and would have been on the level of a man's eye, walking along the ground. The nest was built of dry grass, twigs, fine roots and moss, lined with fine grass and contained four partly incubated eggs.

The young are slim handsome birds conspicuously spotted with silvery buff on the lower parts, head and back.

The alarm note is similar to the "chuck chuck" of the Hermit Thrush. In a recent number of the Condor,¹ Mr. Forrest S. Hanford states, that during thirteen years, he has heard the Solitaire sing only five times. In this district, they sing quite freely, during the nesting season; generally perched on the very top of a Douglas fir or Murray pine. I have frequently heard them singing in the winter.

In the winter months their food is largely the acrid berries of the dwarf juniper (*Juniperus occidentalis*).

DESCRIPTION OF A NEW SUBSPECIES OF *PIRANGA HEPATICA* SWAINSON.

BY HARRY C. OBERHOLSER.

THE geographic range of *Piranga hepatica hepatica*, as now understood, extends from Arizona to southern Mexico. Examination of a series of 115 specimens of this species in the United States National Museum, including the Biological Survey collection, reveals the existence of an additional and undescribed subspecies from the southwestern United States. This we venture to name

Piranga hepatica oreophasma, subsp. nov.

Chars. subsp.— In general, similar to *Piranga hepatica hepatica*, from central and southern Mexico, but larger, with a relatively somewhat smaller bill; male with upper-parts darker, the back also more reddish, and ventral surface more deeply colored; female with upper and lower parts rather darker, the back averaging also somewhat more grayish (less greenish).

¹ Vol. XIX. January-February, 1917, page 13.

Description.—Type, adult male, No. 168397, U. S. Nat. Mus.; Pine Canyon, at 6000 ft. altitude, Chisos Mountains, central western Texas, June 3, 1901; Harry C. Oberholser; original number, 290. Forehead and anterior portion of crown, dark scarlet; occiput rather light Brazil red; cervix light brick red; back and scapulars, between ochre red and brick red, somewhat mixed with neutral gray; rump neutral gray washed with the reddish of back; upper tail-coverts light brick red; tail Natal brown, the rectrices edged externally with dragon's-blood red; wings fuscous, the superior coverts rather paler, the primaries, secondaries, median and lesser coverts, edged with dragon's-blood red, the greater coverts and outer webs of the tertials, with dull coral red or dull light coral red; supraloral streak scarlet; lores and maxilla brownish gray, a little mixed with buffy white; suborbital region grayish white somewhat mingled with grayish; auriculars dull neutral gray, washed with light Brazil red; a broad stripe down the sides of the neck back of the auriculars, of the same color as the cervix; a broad stripe behind this, like the back; extreme anterior point of chin creamy white; sides and flanks between dragon's-blood red and scarlet; thighs dragon's-blood red; remainder of under parts scarlet, paling on the anal region and lower tail-coverts to peach red (a patch of primuline yellow on the middle of the abdomen is doubtless adventitious); edge of wing light scarlet; lining of wing dark shrimp pink.

Measurements.—Male:¹ wing, 103–106 (average, 104.5) mm.; tail, 81.5–86.5 (84.6); exposed culmen, 16–17.8 (17.1); tarsus, 21–23 (22.1); middle toe without claw, 15–16.5 (16.).

Female:² wing, 98–101 (average, 99.3) mm.; tail, 79.5–84.5 (82.7); exposed culmen, 16.2–19 (17.5); tarsus, 21.5–23.3 (22.3); middle toe without claw, 14.5–16 (15.4).

Geographic distribution.—Southwestern United States to central Mexico. Breeds in the Transition Zone of the mountains, north to north central New Mexico and Beaverdam, northwestern Arizona; west to western Arizona, Sonora, Sinaloa, and Tepic; south to central western Jalisco; east to western Jalisco and southeastern Coahuila, Santa Catarina in central western Nuevo Leon, central western Texas, and east central New Mexico. Winters north to southern Sonora, and south to Michoacan and the State of Mexico.

Remarks.—The race of *Piranga hepatica* here newly distinguished is not so dark above or below as *Piranga hepatica dextra*³ from eastern Mexico, and, furthermore, is considerably larger; while the female is lighter and less greenish above. Specimens from Texas, New Mexico, and Arizona are largest; those from

¹ Five specimens, from Texas, New Mexico, and Arizona.

² Five specimens, from Texas and Arizona.

³ Bangs, Proc. Biol. Soc. Wash., XX, March 27, 1907, p. 30.

Batopilas, Chihuahua, and Alamos, Sonora, are slightly smaller, though in color not different. Birds from the Sierra Guadalupe in Coahuila are of the same size as those from Arizona, but are somewhat darker, thus indicating their vergence toward *Piranga hepatica dextra*. A single adult male from Santa Catarina, Nuevo Leon, although not very far east of the Cerro de la Silla, where *Piranga hepatica dextra* occurs, is of the same color as the Arizona form, but is of rather smaller size, inclining, as would be expected, toward *Piranga hepatica dextra*, although apparently, so far as it is possible to judge from a single example, nearer *Piranga hepatica orcophasma*. Examples from Atenguillo and San Sebastian, Jalisco, together with those from Santa Teresa, Tepic, are just about half way between the present race and *Piranga hepatica hepatica*, the males being perfectly intermediate in size, though in color like Arizona birds; while the female is of the size of *Piranga hepatica hepatica*, but in color nearer the Arizona race. As a whole, however, these birds are probably best referable to *Piranga hepatica orcophasma*.

The Hepatic Tanager was originally described ¹ from a specimen taken at Real del Monte, Hidalgo, Mexico; and, therefore, the birds from central and southern Mexico must be regarded as typical. Mr. Outram Bangs has already described ² the small, dark form from eastern Mexico as *Piranga hepatica dextra*; but in so doing, made the statement, through a misunderstanding, on the ostensible authority of Mr. E. W. Nelson, that Real del Monte, the type locality of *Piranga hepatica hepatica*, was the same as Temascaltepec, likewise one of Swainson's localities. This, of course, is not the case, since Real del Monte is in southern Hidalgo, not far northeast of the city of Pachuca; while Temascaltepec is situated at some distance southwest of the city of Mexico, and in the state of Mexico.

There are thus apparently three recognizable subspecies of *Piranga hepatica*. The range of the new one here described has been given above, but since the distribution of the others has been altered by the present separation, their ranges with the necessary corrections are added below.

¹ *Piranga hepatica* Swainson, *Philos. Mag.*, new series, I, No. 6, June, 1827, p. 438 (Real del Monte, Hidalgo, Mexico).

² *Proc. Biol. Soc. Wash.*, XX, March 27, 1907, p. 30.

Piranga hepatica hepatica.—Central and southern Mexico, north to San Luis Potosi; west to central Jalisco (Guadalajara) and western Michoacan; south to Guerrero and Oaxaca; and east to Oaxaca, Tlaxcala, and Hidalgo.

Piranga hepatica dextra.—Eastern Mexico, north to Cerro de la Silla in Nuevo Leon; west to the same locality, Huauchinango in northwestern Puebla, southeastern Puebla, and the eastern border of Oaxaca; south to Chiapas and Guatemala; and east to Guatemala, Chiapas, and Vera Cruz.

The localities from which specimens of *Piranga hepatica oreo-phasma* have been examined are listed below:

Arizona.—Hualapai Mountains, 6300 feet (July 8, 1902); Fort Whipple, (June 21, 1892 [nestling]); Fort Huachuca (May 7 and 11, 1892); 25 miles northeast of Rice, Nantan Plateau (May 11 and 12, 1916); Young's Ranch, Mingus Mountain, at 7500 feet, 6 miles southeast of Jerome (August 21, 1916); Ash Creek, Graham Mountains, 6100 feet (May 16, 1914); Graham Mountains, 6400 feet (May 13, 1914); Dragoon Mountains (May 4, 1895); Flagstaff (May 27, 1888; June 21, 1886); Mud Tanks (October 3, 1884); Rock Canyon (July 12 and 20, 1874); San Francisco Mountain (September 4 and 7, 1889; August 31, 1889; June 3, 1887); 20 miles south of Apache (September 8, 1873); Crittenden (August 26 and 27, 1874); Fort Verde (August 5, 1887); Huachuca Mountains (July 27, 1893; August 2, 1893; September 10 and 16, 1893); Gardner's River, Santa Rita Mountains (June 18, 1884); Santa Rita Mountains (June 7, 10, and 28, 1884; July 5, 1884).

New Mexico.—Animas Peak, Animas Mountains, 8000 feet (August 3, 1908); southeast slope of Capitan Mountains (July 22, 1903) Burro Mountains (September 16, 1908); east side of San Luis Mountains (June 23, 24, and 26, 1892); west side of San Luis Mountains (July 13, 1892); San Luis Mountains (September 4, 1893); Big Hatchet Mountains (May 19 and 21, 1892); Dog Spring, Grant Co. (May 31, 1892); Grafton; Zuni Mountains (August 31, 1857).

Texas.—Pine Canyon, 6000 feet, Chisos Mountains (June 3, 1901) [type]; June 7, 1901); Limpia Canyon, Davis Mountains (July 12, 1901).

Chihuahua.—San Luis Mountains (August 12, 1908); near Batopilas (October 4, 1898).

Coahuila.—Sierra Guadalupe (April 24, 25, and 27, 1902).

Jalisco.—Atenguillo (March 5, 1897); Ocotlan (January 4, 1903); †San Sebastian (March 21 and 22, 1897).

Mexico.—Amecameca (February 18, 1893).

Michoacan.—Mt. Tancitaro (February 24, 1903).

Nucro Leon.—Santa Catarina (April 13, 1902).

Sinaloa.—Culiacan (March 17, 1899); Mazatlan.

Sonora.—Near Alamos (January 6, 1899).

Tepic.—Santa Teresa (August 8 and 12, 1897).

Comparable detailed measurements of *Piranga hepatica oreo-
phasma* and *Piranga hepatica hepatica* are as follows:

MEASUREMENTS OF SPECIMENS OF *Piranga hepatica oreophasma*.

U. S. Nat. Mus. No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed Culmen.	Tarsus.	Middle toe without claw.
168379	♂	Pine Canyon, 6000 ft., Chisos Mts., Texas. ¹	June 3, 1901.	H. C. Oberholser.	103	81.5	16.8	22	16.5
205566	♂	Burro Mts., New Mex.	Sept. 16, 1908.	E. A. Goldman.	103	86.5	17.8	21.5	15.
186889	♂	Southeast slope Capitan Mts., New Mexico.	July 22, 1903.	J. H. Gaut.	105.5	85	17.5	23	16.5
137972	♂	Fort Huachuca, Ariz.	May 7, 1892.	A. K. Fisher.	106	85	16	21	16
137973	♂	"	May 11, 1892.	"	105	85	17.5	22.8	16
Average of five males									
168477	♀	Limpia Canyon, Davis Mountains, Texas.	July 12, 1901.	H. C. Oberholser.	98	84	19	22.2	14.5
168332	♀	Pine Canyon, 6000 ft., Chisos Mts., Tex.	June 7, 1901.	"	101	84	18.5	23.3	15.8
258666	♀	Ash Creek, 6100 ft., Graham Mts., Ariz.	May 16, 1914.	E. G. Holt.	99.5	79.5	16.8	22.3	16.
258444	♀	25 miles northeast of Rice, 5800 ft., Nantan Plateau, Arizona.	May 12, 1916.	W. P. Taylor.	100.	84.5	16.?	21.5	14.8
241319	♀	"	May 11, 1916.	E. A. Goldman.	98	81.5	17	22	16
Average of five females									
					99.3	82.7	17.5	22.3	15.4

¹Type.

MEASUREMENTS OF SPECIMENS OF *Piranga hepatica hepatica.*

U. S. Nat. Mus. No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed Culmen.	Tarsus.	Middle toe without claw.
143640	♂	Near Totontepec, Oaxaca, Mexico.	July 22, 1894.	E. W. Nelson and E. A. Goldman.	97	77	18	22.5	16
186480	♂	Omitleme, Guerrero, Mexico.	May 25, 1903.	"	100.5	83	17.8	23.5	15
143638	♂	Reyes, Oaxaca, Mexico.	Oct. 19, 1894.	"	97	84	17.5	23	17
143650	♂	Tetela del Volcan, Morelos, Mexico.	Feb. 12, 1893.	"	97	78	18	22	16
143647	♂	Cuernavaca, Morelos, Mexico	Jan. 6, 1893.	"	100	81.5	17	22.5	16.2
Average of five males									
143639	♀ im.	La Parada, Oaxaca, Mexico.	Aug. 19, 1894.	E. W. Nelson and E. A. Goldman.	92	76.5	16.8	23.	15
143648	♀ im.	Querendaro, Michoacan, Mexico.	Aug. 7, 1892	"	96	82	16.2	22.5	—
143651	♀	Cuernavaca, Morelos, Mexico.	Jan. 4, 1893.	"	98	83	17.8	21	16
Average of three females									
					95.3	80.5	16.9	22.2	15.5